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NPIC/TDS/D-758-67
16 March 1967

MEMORANDUM FOR: Chief, Exploitation Systems Branch

SUBJECT : ☐ Proposal: Advanced Stereo Rhomboid Model II

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1. Following is an evaluation of the ☐ proposal for an Advanced Stereo Rhomboid designed for the ☐ Zoom 70 Stereoscope:

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a. Conformity with Development Objectives - The proposed "Double Arm Rhomboid" most nearly meets our requirements for an improved version of the Model I Wide Span attachment currently in production. The proposed Model II meets or exceeds the various specifications contained in our Development Objectives, and though a bit more expensive than the "Single Arm" version the added versatility outweighs the difference in cost.

b. Design Features - The design of the system is well thought out and has some ingenious features but the overall concept is slanted largely towards the "modular design concept" envisioned for future ☐ product development. This has resulted in one feature which probably will not be acceptable to some, namely, having the image rotation performed at the eyepiece rather than at the objective.

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This would result in a PI having to change a habit pattern when using the new rhomboid if he has been used to using the Model I but there is not much technical justification for not having the adjustment at the eyepiece.

From ☐ point of view this same feature will permit them to guarantee a maximum image runout during image rotation of 0.5mm. This figure is not easily and therefore, not economically attainable if the rotation element is located at the objective of the instrument. This is being proven out with the Model I pre-production unit.

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Declass Review by NGA

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This becomes a trade-off situation. Are we willing to forego the "advantage" of image rotation at the objective for the "advantage" of closer image run-out specifications? My personal opinion is that we should.

Except for this one consideration, the total design of the Double Arm Rhomboid is completely satisfactory technically and has a good deal of merit from a human engineering standpoint.

- c. Summary - The proposed advanced stereo rhomboid system offers an acceptable design fulfilling the specifications contained in our Development Objectives. It also offers, through [] modular concept, the opportunity to phase-in this development with our current Zoom 70 compliment and at the same time to convert to the Advanced Zoom 70 whenever we wish. This, of course, commits us to [] stereomicroscope for some time but I feel that it is to our advantage as well as theirs at this time.

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- d. Recommendations - I recommend negotiation with [] for production of a prototype "Double Arm" rhomboid as described in their proposal for the following reasons:

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- 1) The design meets all our requirements.
- 2) It will extend the useful life of our present Zoom 70's.
- 3) It is adaptable to the improved "Advanced Zoom 70" to be produced by []
- 4) Production costs are reasonable.
- 5) The unit will be useable with the [] Twin Light Source Table.
- 6) [] is the sole bidder.

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Distribution:

Orig - Ch/ESB

1 - []

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